EXHIBIT 2

BUSINESS AUTOMATION

Expert Report of Brooks L. Hilliard CMC, CCP
Business Automation Associates, Inc.
Phoenix, Arizona

In the matter of:

Hodell-Natco Industries, Inc.

vs.

SAP America, Inc.

and

SAP AG

vs.

LSI-Lowery Systems, Inc.,

and

The IBiS Group, Inc.

Case No. 1:08 CV 2755

United States District Court

Northern District of Ohio

Eastern Division

August 10, 2012

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INTRODUCTION:

This report states and explains my opinions in the matter of Hodell-Natco Industries, Inc. (hereafter "Hodell") v. SAP America, Inc. and SAP AG (hereafter referred to collectively as "SAP" or individually as "SAP America" and "SAP AG", respectively) v. LSI-Lowery Systems, Inc. and The IBiS Group, Inc. (hereafter referred to collectively as "LSi"); Case 1:08 CV 2755 in United States District Court, Northern District of Ohio, Eastern Division. It is offered to address specific issues raised in Plaintiff's Complaints in the captioned matter as well as the reports submitted by Plaintiff Expert Helmuth Gümbel.

PERSONAL BACKGROUND:

In my consulting practice over the past 31 years, I have consulted to more than 200 companies, governmental agencies and not-for-profit organizations regarding issues related to the selection, implementation and ongoing support of business computer applications (including both hardware and software) to perform functions comparable to the enterprise applications marketed and supported by SAP. In particular, I have consulted to clients that had licensed or were considering the license of ERP and other enterprise-wide software developed by SAP, Oracle, Microsoft, Epicor, Infor and several other developers and/or licensors of business applications software.

Over the course of the past 32 years, I have been engaged as an expert witness / consultant in more than 120 legal disputes. Of these, the most common types of matters I have been involved in have related to the implementation, performance and/or support of various computer systems and software applications. I have been engaged by and testified for both counsel for the suppliers and counsel for the customers for such products and services. Although most of these engagements have been settled out of court, I have given testimony numerous times in depositions, trials, hearings and arbitrations.

I am one of fewer than fifteen professionals in the world to be both a Certified Management Consultant (see Exhibit #1) and a Certified Computing Professional (see Exhibit #2). My educational background includes an M.B.A. from Harvard Business School and a Baccalaureate degree in mechanical engineering with Deans' List academic honors from the Massachusetts Institute of Technology. In addition, I have lectured on computer systems and programming for the Arizona State University School of Business and the American Management Association. Prior to founding Business Automation Associates in 1980, I held both line and staff positions for several major computer companies where I had responsibilities in the areas of designing, developing, marketing and supporting a wide variety of computer products used in both business and government applications. A copy of my professional biography is attached (see Exhibit #3).

In addition to my full-time consulting activities, I have served as a member of the Arizona State Bar Technology Task Force, written a book on computer selection (published by Dow Jones), published my own hard copy and electronic computer newsletters, provided commentary on computer issues for the nationally-syndicated MARKETPLACE news program on Public Radio International, conducted seminars, spoken professionally on various computer issues and been active in several civic organizations. I am serving currently as the Chairman of the Ethics Committee for the Institute of Management Consultants USA. I am also a past Board of Directors member for the Institute of Management Consultants USA, the Arizona Harvard Business School Alumni Association, the Arizona Chapter of the National Conference of Christians and Jews, Devereux Foundation (Arizona), Junior Achievement of Central Arizona and the Phoenix 100 Rotary. Business Automation also maintains membership in the Arizona Technology Council and the Independent Computer Consultants Association, and I am a member of the IEEE.

OPINIONS:

Based on my review of the facts in this case, I have reached the seven opinions stated below. The evidence on which I relied to reach these opinions is explained in the "Basis for Opinions" section below.

Opinion #1: The process of partnering between software companies and software implementation firms is done to facilitate client service and support, not the isolate the customer from the software company.

Opinion #2: The process by which Hodell agreed with LSI to arrange for the implementation of the SAP Business One software did not follow normal industry procedures that were known to both parties and, unknown to SAP, proceeded in an unusual and unprofessional manner that both parties should have known would lead to Hodell's eventual dissatisfaction with the resulting implementation.

Opinion #3: There is no supportable basis for Mr. Gümbel's assertion that SAP's Business One ERP software was incapable of scaling up to support a business the size of Hodell.

Opinion #4: Although the SAP Business One software had a marketing focus on smaller companies, that does not imply that it was incapable of running satisfactorily for companies the size of Hodell.

Opinion #6: LSI's and Hodell's neglect of technical warnings known to one or, in some cases, both of them before and after Hodell licensed the SAP Business One software, without getting normal guidance from SAP and without taking normal and customary actions to avoid potential problems was a major factor causing the SAP Business One software not to perform up to Hodell's expectations.

Opinion #6: Hodell's decision to go live with the SAP Business One software before completing adequate testing, combined with its knowledge that the results of the limited tests that were done did not satisfy its anticipated requirements, was inconsistent with the normal customs and practices of the industry and was a major cause of the problems and costs incurred by Hodell after going live.

Opinion #7: Hodell's use of outdated, inadequate and underpowered equipment, cabling and network components to run the SAP Business One software contributed to the alleged inadequate performance of the SAP Business One software was inconsistent with the normal customs and practices of the industry and was a major causal factor that slowed the very performance problems complained about by Hodell.

Opinion #8: SAP's support of LSI and Hodell was consistent with the normal standard of care typically delivered by ERP software companies and was not a significant cause of the alleged software deficiencies cited by Hodell.

PROCEDURES:

In order to reach the opinions above, I reviewed the documents, pleadings and depositions listed in Exhibit #4.

It is my normal practice, when rendering opinions in legal matters, to use a rigorous and standardized methodology, and that is what I have done here. My methodology follows all industry-accepted guidelines. I use the same basic methodology with legal clients for assignments related to computer system quality and acceptability that I use with consulting clients for information technology-related consulting, adapted as appropriate to account for the fact that expert engagements customarily address only a subset of the issues that a computer software and/or system selection engagement would require and take place after some set of actions (*i.e.*, the actions that are the subject of the litigation) rather than as part of a planning process. And, in reaching my

opinions, I rely only on factors that are generally relied upon and considered reliable by experts in my field.

In addition, since my opinions in this matter address areas that require specialized computer and software industry knowledge, I have taken care to explain critical computer industry terms of art in a manner that does not favor either plaintiff or defendant. As is my normal practice, I have taken care to apply my expertise related to the computer industry customs and practices and accepted standards of care relevant to this matter in an objective manner. My ability to do this is evidenced by the fact that I have maintained consistency in my reasoning in all engagements, regardless of whether I was engaged by counsel for customers or counsel for vendors of computer and software systems.

INDUSTRY BACKGROUND:

Software such as the SAP Business One is customarily classified in the computer industry as a type of business applications software known as Enterprise Resource Planning software (usually abbreviated as "ERP software").[1] In general, ERP software is characterized by the fact that it performs a wide range of functions throughout a user's business, including but not necessarily limited to customer-related functions (*e.g.*, maintaining customer and prospective customer records, entering customer orders, etc.), operational functions (*e.g.*, managing manufacturing and/or service operations, tracking inventory, fulfilling orders, etc.), accounting functions (*e.g.*, sending and paying bills, cash receipts, producing accounting reports, etc.), management functions (*e.g.*, payroll and personnel record-keeping, etc.). The most widely used ERP software, such as that developed by SAP, is designed

[1] Applications software is software that is used to perform some business or other comparable function (such as accounting, *e.g.*, Quickbooks) needed by the software user and is distinct from systems software (such as an operating system, *e.g.*, Microsoft Windows), which perform functions needed to make the computer system and/or its associated software components work properly. There are several categories of applications software including "enterprise software", which typically performs multiple functions throughout an organization (such as ERP software); "personal productivity software", which performs functions (such as word processing) for individual users; "process control software", which controls industrial machinery; etc.

such that it can be implemented in a wide variety of industries while other ERP software (known as "vertical market" software) is intended for use only in specific industries, which may be very broad (*e.g.*, manufacturing) or very narrow (*e.g.*, shoe stores).

The most prominent developers[2] of ERP and other enterprise software include SAP, Oracle, Microsoft, Epicor and Infor, but there are hundreds of others, many of which only market their software products to specific "vertical market" industries. In addition to developing their software nearly all of these companies also provide customization, implementation, consulting and support services related to their software products.

ERP software sales and implementation partners

In general, ERP software companies and other enterprise software providers reach prospective customers and license their software to them through their own sales organizations, software resellers (including large consulting and accounting firms, as well as smaller software consultants and implementers), or both. When the business software industry began, most applications software was sold directly by sales personnel who were directly employed by the software companies themselves. However, over the years, many business software companies found that there were several advantages to augmenting or replacing their own sales organizations with outside sales, consulting and implementation firms, including:

- A cost-effective way to expand their geographic coverage, due to the fact that these firms were based closer to the prospective customers.
- Such firms, which typically maintained offices close to the customers they sold to, were able to provide better and more effective support to those customers during the planning and implementation processes, as well as extended support once the software was up and running.

[2] It is often the case that the type of entity that I refer to as a "developer" is not the same entity that originally developed the software, but is rather the company that owns the intellectual property rights to that software and, by virtue of that ownership, is the one that either (a) sells licenses allowing other entities to use the software or (b) authorizes one or more other companies (*i.e.*, "licensors") to sell such licenses. In the case of the SAP Business One software implemented at Hodell, as stated in the December 23, 2005 license agreement, SAP Business One is software "developed by or for SAP [America] and/or SAP AG and delivered to [Hodell]", whereby SAP America is the licensor.

- Also due to proximity, such firms were able to support smaller customers than the software companies could, without having to charge for travel and expenses when on-site support was needed.
- Lacking the relatively high overhead associated with large software companies, such firms were able to expand the market for the ERP software by delivering implementation and support services to their customers at lower hourly rates than the software companies' own employees.
- In some instances, such firms endeavored to develop industry-oriented customizations to supplement the capabilities of the standard ERP applications, expanding the market for it by making it more attractive to particular "vertical markets" that the non-customized software product.

These factors provided a huge advantage to the ERP software companies, allowing them to grow their markets far beyond what they could have done without third-party consultants and implementers by making their quality software products available and affordable to a much broader universe of customers than they could have reached in any other way.

As this method of software distribution spread, the term "business partner" had come into normal business use in a wide variety of industries, *i.e.,* not just the computer industry, to describe any recognized business relationship between two or more companies. This term is widely recognized in business as having an entirely different meaning than the term "partnership" used in an accounting or tax context,[3] in that it implies none of the financial responsibility inherent in a formal partnership, as defined for legal or tax

[3] The Wikipedia definition of this term is well accepted: "A business partner is a commercial entity with which another commercial entity has some form of alliance. This relationship may be a contractual, exclusive bond in which both entities commit not to ally with third parties. Alternatively, it may be a very loose arrangement designed largely to impress customers and competitors with the size of the network the business partners belong to. The meaning of the term is quite different from that implied in partnership, and it is because of the potential for confusion between the two that widespread use of 'business partner' has been discouraged at times in the past. A business partner can be:

- A supplier
- A customer
- A channel intermediary (such as an agent or reseller), or
- A vendor of complementary offerings (for example, one party sells the hardware, while the other sells the software). . ."

See <http://en.wikipedia.org/wiki/Business_partner>.

purposes. Thus, many enterprise software companies, including SAP, adopted the term "business partner" (or, in some cases, just "partner") to describe the third-party consulting and implementation firms that sell, implement and support their products.

The nature of SMB market for enterprise software

The United States government does not have a uniform definition of a small business that applies across all industries but it does use a threshold of up to 500 employees for qualifications in some governmental programs. However, the European Union does have an official categorization[4] for Small and Medium Size Enterprises (SMEs), which is generally considered synonymous with the the term "Small and Medium Sized Businesses" or "SMBs", as that term is commonly used in the United States. The size range for SMEs is from 10 to 250 employees and from €2 million to €50 million (*i.e.*, $2–$3 million to $65–$75 million, depending on the exchange rate). This approximate size range for revenues and employees has been widely accepted by the computer and software industries to refer to a market segment that is targeted by some types of systems and software suppliers. Any organization larger than those that fall into in this range would customarily be considered a large business for the purposes of the computer industry.

Because of the relative scarcity of large businesses (sometimes including those at the top end of the SMB range that have nation-wide and/or multinational operations) and their relative complexity, the largest ERP software companies usually market to and support them directly, without involving the type of "business partners" described above. This is advantageous to both (a) the large business software customers, because it gave them a central point of contact and support for their widely spread operations, and (b) the ERP software companies, because it is easier and less expensive to support one very large customer than several dozen customers that together have the same combined size.

The problem faced by large ERP software companies in doing this is that it becomes difficult to prioritize support between very large customers that can afford to pay relatively high fees for the extensive services they require, and

[4] See <http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm>.

SMB customers that cannot afford the higher fees but may have support requirements that are just a critical as those of larger businesses. That is where the type of "business partners" described above come in. For all of the reasons enumerated above, it has become the industry standard for the major ERP software companies to utilize networks of "business partners" as the primary sales and support channel to meet the needs of their SMB customers.[5]

The nature of SAP Business One

The software product SAP America licensed to Hodell, SAP Business One, is a traditional ERP product, not tailored to specific industries (*i.e.*, not a "vertical market" solution, as described above). The software includes standardized capability for all of the major business functions, including order processing, inventory, billing, accounting, etc.

SAP is one of the two largest ERP software companies in the world and its Business One product is comparable to its other ERP products, including MySAP and R/3 among others, as well as those sold by other ERP software companies such as Oracle. The difference between Business One and SAP's other products is that it was designed for SMB sized businesses, rather than large multi-national firms in several ways:

- Its license and maintenance fees are lower than SAP's large-business solutions.
- It does not include the level of functionality that would be required by large corporations.
- It is designed for faster, easier and less costly implementation than ERP packages intended for use by large corporations.

Because of its applicability to a broad range of industries with different needs, SAP Business One is structured such that it can be tailored to meet the needs of each licensee in two different ways: customization of its built-in functionality done through the setting of various built-in parameters, and the addition of new or unique functionality through the creation of what SAP

[5] Many smaller enterprise software companies, particularly licensors of "vertical market" applications, use "business partners" for sales and support as well because that can be more cost effective than using their own employees to reach customers that may be spread over a wide geographic area.

refers to as "add-ons". Like other ERP software products, Business One offers numerous customization options (*e.g.*, different billing procedures, inventory valuation options, accounting methods, etc.) that allow licensees to tailor its capabilities to meet most normal business requirements, and is designed so that normal businesses in many industries can make it work to meet its needs simply by setting parameters to select those options that fit their business practices.

However, it is not unusual for businesses to have some unique requirements that cannot be handled through this type of customization alone. That is what creates the need for add-ons.[6] Thus Business One provides standard ways (known as applications programming interfaces, or APIs) for these add-ons to interact with the base SAP Business One software to provide whatever capability they are developed to deliver. Because most Business One licensees typically do not have the level of in-house software development resources that a larger organization might have (and in many cases virtually no in-house development resources), the creation of add-ons is typically done by implementation consultants, the "business partners" described above.

There is one major drawback to the use of add-ons, however, due to the fact that their use can interrupt the natural processing flow of the base Business One software, thereby creating a risk of performance slow-downs and/or other problems. Most companies that have or are considering acquiring ERP software are acutely aware of the risk, which explains why — in general — most of them prefer to keep add-ons to a minimum or avoid them entirely (*i.e.*, preferring to stay as close as possible to what is known as a "plain vanilla" implementation). This known risk associated with agreeing to accept add-ons, particularly complex add-ons, that applies to all ERP software, not just SAP or SAP Business One. The possible negative effects are difficult, if not impossible to anticipate since they can be affected by the nature of the add-on processing, the way the add-on uses the APIs, what data the add-on accesses and a wide variety of other factors. The difficulty in predicting how any particular add-on will affect any system is exacerbated by the fact that neither the customer, the business partner nor even the developer or licensor of the base software (*i.e.*, SAP in this case) can really know everything that any given add-on will touch

[6] Some software companies allow their customers and/or business partners to make actual modifications to their base software, but that was not done for the Business One software delivered to Hodell, so I have not referred to that possibility in this report.

and how much performance degradation or other problems that might create until the add-on is actually developed and tested thoroughly.

Typical ERP software implementation process steps

Since the inception of business software applications, going back to the 1980s and before, both the business and computer press have frequently featured stories describing the risks associated with implementing it and the problems and costs that businesses can incur when an implementation goes awry. Virtually no installation of enterprise software occurs without some issues arising, a fact that is widely recognized by business owners and managers who have ever gone through that process. That is the reason why any business considering the replacement of an existing enterprise software system is well advised to plan the replacement process carefully and follow a prudent course of action, including all of the implementation steps recommended by the software company.

Although details of the recommended process for software evaluation, acquisition and implementation differ from consultant to consultant, and from one software company to the next, virtually all of them recommend a process including (at a minimum) each of the following steps:

- Complete senior management commitment to the success of the ERP implementation project, extending down through management to the user user organization. In addition to the clearly expressed execujtive commitment, this involves assigning qualified personnel to the project and following up to ensure that the entire organization fulfills all of its responsibilities.
- Preparation of a thorough requirements document for distribution to prospective software suppliers before licensing any software, to minimize the risk of misunderstandings regarding the required software capabilities.
- A pre-implementation "fit/gap" planning process after the software is selected, including preparation of a comprehensive functional specification, describing (in greater detail than the requirements document prepared previously) how the software will deliver the required capabilities and how the parties will resolve any differences

between what the licensee expects and the standard capabilities and functionality of the selected software as delivered.[7] Even Hodell's expert, Mr. H. Gümbel, has acknowledged that there are usually significant differences between standard ERP software functionality and what the customers for ERP software need.[8]

- Selection of a customer implementation team with the experience and authority to make implementation decisions and ensure that the intended users of the selected system are trained and ready to implement the software when it is time to "go live".
- Training of the eventual end users of the system being implemented, either directly or via a "train the trainers" approach
- Data conversion of all critical data files (including the cleansing of bad or corrupt data), either through an automated process or manually.
- Pre go-live testing, including testing of both functionality (*i.e.*, the functions that the system is intended to do) and performance (*i.e.*, the responsiveness of the system to user interaction).
- Coordination/commitment to reach acceptance, including the setting of satisfactory acceptance criteria, agreement to test for achievement of the accepted criteria, agreement on a procedure for resolving acceptance issues if they arise, and performance of the acceptance testing and sign-off as agreed once the criteria are met.
- Rigorously followed change management procedures (to be used as needed), to address unanticipated additional requirements and/or misunderstandings that arise during or after the implementation process.

[7] There are typically "gaps" between the standard software capabilities and the customer's needs. These gaps are customarily addressed by some combination of adjustments to the software parameters to "fine tune" how it operates, adjustments to the customer's operating procedures, compromise on some desired functionality and modifications to the software itself, such that it can provide the capabilities needed by the customer.

[8] See Gümbel report, page 10.

Typical responsibilities of parties

Successful implementation of any ERP software, in addition to the process steps described above, requires that the responsibilities for each party (*i.e.*, the implementer and the customer) be agreed to ahead of time and followed. These responsibilities, although they may vary and are typically spelled out in the contract between the parties, are typically divided as follows:

Customer responsibilities:

- Preparation of a requirements document.
- In depth evaluation of supplier proposals, demonstrations, references, etc., culminating in a decision.
- Good faith negotiation of contract terms as appropriate (joint with vendor).
- Selection of implementation team with sufficient expertise, authority and top-management commitment.
- Review and approval of "fit/gap" document prepared by vendor, including training, data conversion, testing, implementation and acceptance procedures.
- Good faith negotiation of (a) change orders, (b) changes to operational procedures, (c) implementation procedures and/or (d) compromises to initial requirements, as needed to resolve issues found in "fit/gap" analysis (joint with vendor).
- Selection of trainees (including in-house trainers if a part of training plan) and active participation in training sessions.
- Preparation of data to be converted.
- Verification of accuracy of converted data.
- Comprehensive testing of software application (including functionality and performance) prior to go live.
- Good faith coordination with vendor to authorize go live (joint).
- Good faith coordination with vendor to resolve issues identified after go live (joint).
- Software acceptance, subject to joint agreement in resolution to all outstanding issues.

Vendor/implementer responsibilities:

- Comprehensive analysis/review of requirements prepared by customer, including determining answers as needed to areas not sufficiently described in requirements document.
- Presentation of proposal, demonstrations, references, etc., as needed/requested to allow customer to make a selection.
- Good faith negotiation of contract terms as appropriate (joint with customer).
- Designation of team with sufficient skills to complete implementation successfully.
- Preparation of "fit/gap" document, including training, data conversion, testing, implementation and acceptance procedures.
- Good faith negotiation of (a) change orders, (b) changes to operational procedures, (c) implementation procedures and/or (d) compromises to initial requirements, as needed to resolve issues found in "fit/gap" analysis (joint with customer).
- Provision of training in accordance with training plans.
- Conversion of data submitted by customer to be converted.
- Support of customer, as needed during comprehensive testing prior to go live.
- Good faith coordination with customer to authorize go live (joint).
- Good faith coordination with customer to resolve issues identified after go live (joint).
- Ongoing customer and software support, as agreed in contract.

In most cases where an ERP implementation is not deemed as satisfactory, the problems are caused by one or more of the responsibilities above not having been carried out by the party responsible.

The difference between employees and software users

Unlike "employees", the term "users", when used in the context of a business computer system, is an industry term of art universally understood to refer to

those employees of the customer organization who actually operate the system for business, testing, support or other standard purposes.[9] The term "users" is sometimes included among the defined terms in a computer or software contract, particularly when there are contractual terms differentiating between all users (*i.e.*, those with a "user name") and concurrent users (*i.e.*, the total number of users logged in to operate the system at any given time).

For most companies using ERP software (including most distribution and distribution services companies such as Hodell[10]), it is normal and customary that a significant percentage of their employees not to be users of that software (even if they *are* users of other computer-based systems or software installed at the company). In my experience, this non-user percentage typically ranges from 10% to 50%, although it could be more or less. In the case of Hodell specifically, Mr. O Reidl testified that, even today, no more than approximately 125 of the company's approximately 160 employees are users of its current computer system, and this percentage was never significantly exceeded when Hodell was using SAP Business One or its previous system, FACTS.[11] Mr. O. Reidl also testified that he does understand the difference between employees of a company and users of a computer system.[12]

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[9] See, *e.g.*, Webopedia definition, "An individual who uses a computer. This includes expert programmers as well as novices. An end user is any individual who runs an application program <http://www.webopedia.com/TERM/U/user.html>, and Wikipedia definition, "A user is an agent, either a human agent (end-user) or software agent, who uses a computer or network service. . . Users are also widely characterized as the class of people that use a system without complete technical expertise required to understand the system fully" <http://en.wikipedia.org/wiki/User_(computing)>.

[10] See Hodell web site <http://www.hodell-natco.com>.

[11] See O. Reidl deposition transcript, pages 31–32.

[12] See O. Reidl deposition transcript, page 134.

BASIS FOR OPINIONS:

Opinion #1: The process of partnering between software companies and software implementation firms is done to facilitate client service and support, not the isolate the customer from the software company.

As discussed in the Industry Background section, above, there are numerous customer support and market coverage reasons why it is advantageous for both licensors of business applications software and their licensees to utilize implementation consulting organizations (often designated as the licensors' Business Partners) to sell, implement and support the licensors'[13] software. None of these reasons have to do with creating an artificial separation between the software owner or licensor and the software licensee. To the contrary, there is always a relationship between the software company and the licensee, as detailed in the license contract signed by both parties. Such licenses are not optional; every major licensor of commercial business software of all kinds, such as Microsoft, Apple, etc., as well as ERP software companies, require the companies that user their software to agree to their license terms as a prerequisite to running their software. This practice has been the standard custom and practice of the industry for decades and no organization that has ever used an ERP or ERP-type software product, or any other commercial software (including such products and Microsoft Office, Adobe Acrobat or Norton Anti-virus[14]), would have been able to do so without signing a license agreement.

There are certainly responsibilities that any licensor of business applications software has to its licensees, and there are limits to these responsibilities as well. These limits are contractual and have nothing to do with whether the software was sold and implemented by an intermediate Business Partner or not. Because of the need for both the licensor and the licensee to agree to the terms of the license agreement, none of the limits to a licensor's

[13] SAP America, Inc. in the Hodell situation.
[14] With products like Microsoft Office, that are used on individual PCs, the license is often an on-line form agreement that the user must click on before downloading, but enterprise software such as SAP Business One or FACTS always requires the prospective licensee to sign a written form.

responsibilities to the users of its software should ever be a surprise to the licensee.

Opinion #2: The process by which Hodell agreed with LSi to arrange for the implementation of the SAP Business One software did not follow normal industry procedures that were known to both parties and, unknown to SAP, proceeded in an unusual and unprofessional manner that both parties should have known would lead to Hodell's eventual dissatisfaction with the resulting implementation.

As explained above, it is the normal custom and practice of the business software industry for a company licensing such software to sign a license agreement for that software before making any final commitment to acquire a license to use it. Despite the fact that Hodell had previously licensed a commercial business software product, FACTS, and LSi had sold numerous business software licenses (including FACTS) to its clients and both companies had to have been familiar with software licensing, this was not what occurred with respect to Hodell's licensing of the SAP Business One software. Instead, LSi presented and Hodell signed a development agreement specifically stating that "[Hodell] will pay . . . when [LSi] orders the software from SAP. This will occur on a date mutually agreed upon [in the future]"[13] approximately a full year before the license agreement was signed. SAP was not a party the development agreement and was not involved in its negotiation or signing, which took place in December 2004. It is my understanding that the Court has affirmed that, although Hodell contracted with LSi to develop the In Flight add-on, Hodell did not enter a contractual relationship with SAP until Hodell signed the SAP Business One license in December 2005 (which it was not obligated to do).[14] But more important than SAP's lack of involvement with the development agreement, is the fact SAP was totally unaware of any significant details about Hodell or its business needs until some significant time after the license agreement was signed.

[13] See HODL00028.
[14] See Memorandum Opinion and Order, Section IV. A. dated June 2, 2011, pages 6-8.

During the year that elapsed between the signing of the development agreement and the signing of the license agreement, LSi and Hodell undertook an extended process that both had to have known was risky and inconsistent with normal industry customs and practices. There is a wealth of evidence that both parties were aware of the risk associated with this process:

- Both LSi and Hodell had ample experience with normal commercial software licensing, Hodell (at a minimum) from its previous licensing of the FACTS software, and LSi from its long time experience as a SAP and FACTS software implementation consultant.
- Mr. O. Reidl, the owner and president of Hodell, testified at his deposition that he was aware of the risk of having software developed.[17]
- Hodell had contracted with LSi[18] previously to have it develop software (what I have described above as an "add-on") and that development was not completed successfully and Hodell had indicated its dissatisfaction with this to LSi.[19]
- Hodell failed to provide LSi with crucial details about the amount of data the add-on software would need to maintain, the number of transactions the add-on software would need to process and the number of users the add-on software would need to support.[20]
- LSi never attempted to specify the scope of the add-on software being developed or to define the data, transaction or user requirements until long after LSi began "coding" and it had become apparent that the add-on development project was in trouble.[21] Normal and customary professional software development procedures demand that this be done before a software developer

[17] See O. Reidl deposition transcript, pages 164–169.
[18] The party to the prior agreements was IBiS, which had been acquired by LSi before or during the course of this process. For simplicity, I have referred to Ibis and LSi collectively throughout this report as LSi, since the individuals at IBiS involved with the project before the acquisition remained the same after the acquisition.
[19] See *e.g.*, Van Leeuwen deposition transcript, pages 89–42, 119–121 and 264; HODL003314 and O. Reidl deposition transcript, page 182.
[20] According to key LSi personnel involved with the add-on software development and implementation, much of this information never became known to LSi until after Hodell decided to "go live" and began trying to use the software. See, *e.g.*, Weissman deposition transcript, pages 49–51 and 54–56.
[21] See Woodrum deposition transcript, pages 75–77 and 173; LSI01057509 and 02069474–9476 and 65969–9964.

(i.e., here I am referring to the company that will actually write the software) begins the "coding".

- LSi continued its risky and unprofessional development long after key technical personnel within the company began warning its top management that problems were inevitable.[22]
- LSi continually failed to meet development deadlines during the one year period,[23] and Hodell indicated its concern about the missed deadlines and the potential lack of success of the development to LSi, yet Hodell continually approved LSi's project status reports and proceeded with the project.[24]
- In spite of having concerns about the ability of the SAP Business One to support all of its projected users prior to December 2004 and additional concerns prior to December 2005,[25] Hodell proceeded to enter into the development agreement with LSi and the license agreement with SAP without making any effort to determine whether the concerns were or were not valid.[26]

All of these factors, individually and combined, and involving both Hodell and LSi, led to a situation where misunderstandings, and potentially a failure to meet expectations, were virtually inevitable. And both companies, by virtue of their prior experience, had reason to know that this situation was unwise, unprofessional, unbusinesslike and excessively risky.

In particular, this series of events ensured that neither Hodell nor LSi ever looked into the nature of what the LSi development was doing and what risks that would create regarding the ability of the SAP Business One software (in combination with the add-on software being developed by LSi) to provide the functionality and performance that Hodell would eventually expect. In particular, Hodell failed to disclose and LSi failed to appropriately investigate several factors that, if they had been properly considered and acted on, might

[22] See, *e.g.*, LSI02075856–5860.
[23] See, *e.g.*, LSI02068786–8788.
[24] See, *e.g.*, HODL009651–9652.
[25] See O. Reidl deposition transcript, pages 126–127 and 229–230.
[26] See HODL00023–24 and SAP00000434–37.

have prevented Hodell's resulting dissatisfaction with SAP Business One, including:

- The nature, size and complexity of the orders that Hodell intended to use the SAP Business One software to capture.
- The number of the customers, part numbers ("SKUs"), branch locations, etc. (*i.e.*, database size) that the Hodell had.
- The nature of the modifications and add-ons to the SAP Business One software that would be needed to perform all of the functions that Hodell needed.
- How LSi was planning to integrate the proposed modifications and add-ons with the base SAP Business One ERP software.
- The fact that LSi had previously attempted (unsuccessfully) to make modifications similar to those envisioned for SAP Business One to Hodell's existing software (a package known as FACTS).
- The server configuration that Hodell was planning to use to run the SAP Business One ERP software and add-ons.
- The network infrastructure (including cabling, network switches, communications protocols, etc.) and user PCs that Hodell would be using to support the users at its warehouses.

All of these factors were critical to making a determination of whether SAP Business One would perform satisfactorily for Hodell, as acknowledged (at least with respect to the amount of data that Hodell was intending to maintain and the number of transactions Hodell was intending to process on the implemented system) by Hodell's expert, Mr. H. Gümbel.[27]

Also, in spite of all the events and concerns during 2004 and 2005, LSi hardly consulted with SAP to get the guidance or assistance that SAP might have been able to provide in how to develop the desired add-on software in a manner that would avoid Hodell's eventual dissatisfaction or assess the risks associated with the manner in which LSi's software development was proceeding. The only specifics known to SAP prior to the time the license agreement was signed were that Hodell is in the "fastener" industry and would potentially commit to licensing a 40-user SAP Business One system

[27] See Gümbel report, page 14.

with growth to 80 users.[28] It should be noted that Mr. Gümbel based his conclusions on an assumption that SAP and/or LSi knew Hodell would require 120 users initially with the need to grow to 300–500 users,[29] for which there would seem to be no documented support. The first definitive reference to Hodell needing growth beyond 80 users (i.e., to 120 users) that was communicated to SAP did not occur until late January 2006, approximately a month after the license was signed.[30]

Opinion #3: There is no supportable basis for Mr. Gümbel's assertion that SAP's Business One ERP software was incapable of scaling up to support a business the size of Hodell.

The term of "scalability" is a computer industry term of art, referring to the ability of a computer system, or some hardware or software component of a computer system, be able to perform in an acceptable manner in response to a wide range of requirements. Depending on the type of system or subsystem it is, these requirements could relate to the needed capacity, transaction volume, number of users, etc. It is not necessary that the system or component remain unchanged as the demand for its functionality grows in order for a system or subsystem to be considered "scalable" only that it be able to expand or be upgraded to continue providing acceptable results or performance. The issue with respect to the scalability of the SAP Business One software in this case is whether it has the ability to be implemented and configured to at multiple levels, relating to several characteristics. These characteristics include, at a minimum, the intended number of active users, the size of the database it can manage, and the volume of business activity (*i.e.*, number of transactions) it can handle, and still continue to perform with adequate responsiveness in support of the users' normal business operations.

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[28] See SAP00000336, 432–433 and 1076–76.
[29] See Gümbel report, page 9.
[30] See LSI01057141. Note: It is understood that Mr. D. Lowery did communicate with Mr. D. Kraus more than a year before the license agreement was signed that Hodell might grow beyond 100 users, but when that inquiry was not followed by a license agreement shortly thereafter, Mr. Kraus understandably discounted the earlier estimate as a typical over-optimistic sales projection (see Kraus deposition transcript, pages 69–71).

In his expert report, Mr. Gümbel goes to great length to explain the theoretical reasons why SAP Business One should not be able to perform adequately for businesses the size of Hodell.[31] In my 40+ years of computer industry experience, however, I have noted that theoretical factors are not as reliable as actual measured results, and the evidence I have reviewed shows that Mr. Gümbel has failed to give adequate consideration to these measured results.

In particular, Mr. Gümbel failed to take into account the actual Business One testing done to prepare the August 2004 SAP Business One Sizing Guide[32] and the actual measured performance of the SAP Business One software (as installed at Hodell) done by LSi in early 2006.[33] The sizing guide indicates that tests were done for 20, 60 and 150 users using a US demo database, and all showed what would normally and customarily be considered as acceptable order processing response times for the sizes of orders processed.

Even more indicative than the 2004 Sizing Guide tests, however, were the results of the transactions observed and measured by Mr. G. Barnea in July 2007 and Mr. E. Neveux in October 2007, as well as the direct observations of Mr. Woodrum in May 2007.[34] According to contemporaneous notes and e-mails:

- Mr. Barnea visited Hodell and observed Hodell employees entering orders into the SAP Business One software (without the LSi-developed add-on software) , with response times of under 25 seconds.
- Mr. Neveux visited Hodell three months later and observed Hodell employees entering orders with adequate response times, but after the employees told him he was there on a "slow" day for incoming orders, he checked the SAP Business One logs and found that the worst case response time was nine seconds.
- Mr. Woodrum visited Hodell and observed the system for four hours, asking the Hodell employees to demonstrate a worst case response time example, but none of the employees was able to demonstrate anything he or she considered excessive. As an example, Mr.

[31] See Gümbel report, pages 1–9.
[32] See LSI2080770–779.
[33] See LSI02102107–2109.
[34] See LSI-000469–472, SAP00003167–3168 and 4426–4429, HODL015836–38 and LSI02121661–663.

> Woodrum observed a 91-line order that only took "2–3 seconds to update when finished."

Based on the e-mail Mr. Neveux sent shortly after his October visit to Hodell, the only orders that took an extended time to process were those with hundreds of line items.[35] But orders with hundreds of line items are hardly representative test cases because (a) orders of that length are not something that any software company could reasonably anticipate,[36] and (b) according to information supplied to Mr. D. Boessmann of SAP, Hodell's average order was 25 line items (i.e., 400 orders per day with a total of 10,000 lines).[37]

My analysis, above, purposely does not take into account the effect of the LSi-developed add-on to the SAP Business One software (variously referred to as "InFlight", "InFlight Enterprise" or "IFE") or the Radio Beacon add-on sold to Hodell by LSi. There are several reasons for this, including:

- It is not relevant to the determination of whether Mr. Gümbel was correct in his assertion that the SAP Business One software was incapable of supporting a business the size of Hodell.
- LSi and Hodell withheld information about the nature of the InFlight add-on from SAP until well after Hodell licensed the SAP Business One software,[38] so there is no way — even if SAP had concerns about its effect on the Business One software performance — SAP could have expressed those concerns to Hodell in time to make any difference.

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[35] See SAP00005988–5991.

[36] In my experience working for and industrial products distributor, consulting to dozens of clients in the distribution industry and conferring with former sales executives with experience selling the FACTS and Prophet 21 to hundreds of distribution industry clients, typical distribution orders run from 5 to 25 lines. Note: FACTS is the legacy software Hodell was using before going live on Business One (see HODL039953–54) and Prophet 21 (the software Hodell converted to after discontinuing its use of Business One.

[37] See SAP000757.

[38] The first information SAP got regarding Hodell seems to have been in November 2004 (see LSI02057477–7478 and SAP00000329–330) but that did not provide substantive details. Additional information was received in November and December 2005 relating to pricing and various problems encountered during the add-on development, but lacking details about Hodell's needs in general (see LSI010578477 and 7798–7799). SAP did not begin to receive significant details about Hodell until approximately March of 2006 (see, *e.g.*, SAP00004034–4035 and LSI01057550–52).

- I agree with Mr. Gümbel that LSi should have involved [SAP's] "solution architects in the process of making a major performance sensitive add-on [to the Business One software]",[39] but this was not possible because of LSi's and Hodell's withholding of information about InFlight from SAP until it was (in Mr. Gümbel's words) "too late for Hodell."
- Long before SAP was even made aware of InFlight, LSi's own Vice President of Business Software Support, Mr. J. Woodrum,[40] who was later to become LSi's project manager for the InFlight add-on development, forcefully and repeatedly told LSi that the original designer and principal developer of the InFlight was mismanaging its development.[41] There is no way SAP could be considered responsible for this mismanagement.

Although (as stated previously) I do not attach much credence to theoretical analyses of how software ought to perform, it should be noted that I would certainly question a portion of the theoretical analysis on which Mr. Gümbel bases his opinions. Specifically, Mr. Gümbel attempts to make the point that Business One's two-tier architecture is one of the principal reasons why its performance degrades when there are more than 100 users.[42] What Mr. Gümbel fails to explain, however, is the fact that many major ERP software products that also have two-tier architectures (including SAP R/2,[43] as well as PeopleSoft versions before 8.0 and several other ERP software products[44]) have traditionally supported far more than 100 users with entirely satisfactory response times.

Opinion #4: Although the SAP Business One software had a marketing focus on smaller companies, that does not imply that

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[39] See Gümbel report, pages 14–15.
[40] See, *e.g.*, Woodrum deposition transcript, page 10.
[41] See, *e.g.*, Woodrum deposition transcript, pages 75–77 and 173; LSI01057509 and 02069474–9476.
[42] See Gümbel report, page 3.
[43] See Mobilizing Your Enterprise with SAP; Mall, Stefanov and Stademan; SAP Press; 2012, page 90, <http://www.sap-press.de/download/dateien/2788/sappress_mobilizing_your_enterprise_with_sap.pdf>.
[44] See Gümbel report, pages 3–4. Note: the two tiers of the some of the other ERP products are not necessarily the same as the two tiers of the Business One software in all cases.

it was incapable of running satisfactorily for companies the size of Hodell.

In his expert report, Mr. Gümbel asserts that because SAP was focusing its marketing for the Business One product (which he refers to as a "sweet spot") on potential customers that were smaller than Hodell, that corroborates his opinion that the software was incapable of meeting Hodell's needs.[45] Both his premise and the way he reaches his conclusion are flawed.

The assertion that SAP was focusing its marketing on potential customers with fewer than 70 users is based almost exclusively on two sets of evidence:

- A set of marketing materials and internal SAP documents produced after Hodell made its decision (which it could have changed, but chose not to) to license the SAP Business One ERP software.[46]
- A series of SAP e-mails referring to SAP Business One written after Hodell made its decision to license SAP Business One.[47]

The problem with his relying solely on these documents is that they are highly selective. In particular, they are contradicted by (a) other SAP documents produced prior to Hodell's licensing the SAP Business One software,[48] (b) other SAP e-mails written after the e-mails he cites,[49] and (c) the actual documented performance of the SAP Business One software in use at Hodell,[50] which was well within normal and customary levels when the SAP Business One software was run without the add-on software created by LSi (about which SAP had no knowledge until well after the license agreement).[51] When these factors are taken into account, the foundation for Mr. Gümbel's assumption that the Business One software was known to be incapable of supporting Hodell's requirements is no longer supportable.

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[45] See Gümbel report, page 14.
[46] See, *e.g.*, Gümbel report appended exhibits 5, 7–11, and 13. Note: The only pre-2005 document of this type cited by Mr. Gümbel is his appended exhibit 6, which mentions nothing about the intended number of users for SAP Business One customer installations.
[47] See, e.g., Gümbel report appended exhibits 12 (SAP00000691–92), and 14–15 and 16–18 (SAP00003167–68, 5988–91, 14307–08, and 2669–70, which do not necessarily correspond to his footnoted references with the same numbers.
[48] See, *e.g.*, HODL00453–481, LSI02080770–779, and HODL00527.
[49] See, *e.g.*, SAP00002780 and 4609, and HODL00176.
[50] As discussed in the discussion of Opinion #3, above.
[51] See, *e.g.*, LSI02080770–779, SAP00011741–749, 757; LSI01070047–70048.

The second flaw in Mr. Gümbel's reasoning is his reliance on the fact that SAP revised the prototype of the target customer over the period from 2004 to 2009. It is undisputed that SAP did adjust the stated target size for prospective SAP Business One customers during that period, but what Mr. Gümbel fails to consider is that marketing objectives and product capabilities are two different, and often unrelated, things. Nor, given his unsupportable reliance on the limited document set he cites, can he establish any relationship between the profile for the target SAP Business One customer and the capabilities and performance of the product itself. In my experience as a marketing executive for computer companies prior to embarking on a consulting career, there are numerous reasons why a technology business may target a particular market for one of its products that have little to do with the inherent capabilities of the product. Among those that are likely to have been applicable to the reason why SAP lowered the target size of prospective SAP Business One customers, are the following:

- A marketing objective to accurately position Business One as an ERP software product (unlike SAP's other ERP software) that could be implemented quickly and inexpensively,[52] which would typically be more difficult with larger and more complex businesses.
- A business objective of distinguishing Business One from other products (such as SAP, All-in-One and MySAP), targeted at larger businesses, that are able support higher prices and profit margins, thereby avoiding cannibalizing sales of those more profitable software products.[53]
- A recognition that the prospective customers that the sales and implementation consultants handling the SAP Business One product line were much more successful selling to smaller businesses than larger businesses.[54]

These types of reasons for limiting the positioning of computer products based on market and business considerations rather than functional capabilities is something that goes back to the 1970s and before (*i.e.*, when I was computer

[52] See SAP00013242–13261).
[53] See LSI-000449–453; HODL00511–518.
[54] See LSI007049–7051; LSI0016896–6919.

marketing executive), but they are also specifically mentioned by both Mr. Ziv and Mr. E. Neveux in their depositions.[55]

The point of this is that none of the factors itemized above have anything to do with whether or not SAP Business One was capable of supporting larger business implementations than the target market, or "sweet spot", discussed by Mr. Gümbel.

Opinion #5: LSI's and Hodell's neglect of technical warnings known to one or, in some cases, both of them before and after Hodell licensed the SAP Business One software, without getting normal guidance from SAP and without taking normal and customary actions to avoid potential problems was a major factor causing the SAP Business One software not to perform up to Hodell's expectations.

The evidence produced in this case, along with the deposition testimony of both LSi and Hodell personnel documents the fact that both companies overlooked or ignored numerous technical factors that should have alerted them to question whether the proposed combination of SAP Business One with the InFlight and Radio Beacon add-ons would fully meet Hodell's system expectations. The most important of these factors were:

- The problems (known to both Hodell and LSi) that LSi's InFlight designer and initial development project manager, Mr. D. Van Leeuwen, had encountered when trying to add the same basic functionality to Hodell's legacy FACTS distribution software.[56]
- The failure of LSi to produce (and the failure of Hodell to demand) a "Fit/Gap" analysis of the proposed SAP Business One, combined with the InFlight and Radio Beacon add-on software prior to LSi beginning development of the InFlight add-on.
- The failure of the InFlight development team to produce and get Hodell's approval of specifications and documentation for the InFlight add-on software prior to the beginning of its development.

[55] See Ziv deposition transcript, pages 135–136 and Neveux deposition transcript, pages21 and 48.
[56] See, *e.g.*, HOLD003283 and 3547–3548; and LSI02054452–455 and 894312–316.

- Hodell's (and possibly LSi's) withholding the fact from SAP that it expected it would ultimately need to "scale up" the combined Business One / InFlight / Radio Beacon system to support three to four times as many users (*i.e.*, to 250 or more[57]) as the 80 it had originally licensed.
- LSi's and Hodell's withholding of details about InFlight (including specifications and development plans) from SAP until well after Hodell signed the Business One license agreement.
- The continual failure of the InFlight add-on development project to meet milestones planned for it,[58] including the fact that, contrary to the development plan, it was still not operating as planned (known to both Hodell and LSi) as of the date Hodell signed the SAP Business One license.[59]
- The numerous warnings J. Woodrum (LSi's Vice President for Software Support) gave to LSi management before and after Hodell agreed to license the SAP Business One software.[60]
- The changes in the target customer profile SAP was publicizing for the Business One software, which – even if irrelevant for the reasons described in the explanation of Opinion #4 above – were known to, and of concern to Hodell management.[61]
- The SAP documentation known to LSi before and after Hodell signed the Business One license agreement, indicating that complex add-on software and large databases could potentially affect the performance of the Business One software when attempting to support larger than average numbers of users.[62]
- The inadequate computers and network infrastructure on which Hodell would expect the SAP Business One software to run.
- Continued problems with In Flight up through go-live.[63]

[57] See, *e.g.*, SAP00002279–2280.
[58] See, *e.g.*, HODL009080–9065.
[59] See HODL000174 and 3550.
[60] See LSI02069959–69959; LSI02075854S6–5855; LSI02086819–6822); and LSI02069474–9477.
[61] See O. Reidl deposition transcript, pages 125–127.
[62] See, *e.g.*, LSI01057161–7166 and SAP00013045–13072.
[63] See HODL008081, 8993, and 9475–9476.

LSi was an experienced implementer of business applications software, and Hodell was an experienced user of business software, employing an information technology staff,[64] and having several years of experience using distribution software[65] that performed many of the same functions that the SAP Business One ERP software was being acquired to perform. In addition, Hodell was admittedly aware of the risks associated with implementing any ERP software.[66] As such, it should have been clear and obvious to both LSi and Hodell that failing to investigate the implications of several, if not all, of the potential warnings enumerated above was not consistent with the normal custom and practice of the business software industry.

Regardless of whether or not LSi was able to deliver a working SAP Business One system, including all add-on software, operating at levels that would normally and customarily be considered satisfactory to normal distribution companies, Hodell itself was the only entity that could determine whether that system met its expectations. Under the circumstances, where Hodell was continually receiving warning signs that the system might have issues preventing it from meeting Hodell's expectations, Hodell cannot escape responsibility for its decision to license the SAP Business One software in December 2005, while it still had the opportunity delay licensing or reverse the decision to go with the proposed system altogether.

Opinion #6: Hodell's decision to go live with the SAP Business One software before completing adequate testing, combined with its knowledge that the results of the limited tests that were done did not satisfy its anticipated requirements, was inconsistent with the normal customs and practices of the industry and was a major cause of the problems and costs incurred by Hodell after going live.

When converting from one computer system to another, the two most critical decisions a business must make are the selection of the new system and when to convert its operations from the old system to the new one. The reason why these two decisions are so important is that once having made them, the cost

[64] See HODL003070–6072.
[65] See LSI01320353–359; HODL003246–3248 and LSI02212422.
[66] See O. Reidl deposition transcript, pages 167–169.

of reversing them (if significant problems were to arise) would be immeasurably higher after the fact than it was before. Hodell made the first decision final at the point when it licensed the SAP Business One software in December 2005 and, despite numerous issues arising in the period that followed, it decided to cut off its prior system and go live with Business One approximately 15 months later, in March of 2007.[67]

LSi and Hodell had originally planned for Hodell to go live in April 2006,[68] but due to the fact that LSi was behind schedule in developing the InFlight add-on to the point where Hodell could expect to test the functionality of the system successfully, among other issues (including problems with the Radio Beacon add-on), the projected go live date was continually (and prudently) postponed.[69] Chief among the issues that arose in the months following Hodell's licensing commitment was Hodell's concern that the system's performance (*i.e.*, its response time to various user actions) would not be fast enough to support all of the users that would eventually be using it.

As explained below, in the discussion of Opinion #8, SAP provided LSi and Hodell with as much support in an attempt to address this potential problem as could normally and customarily be expected under such circumstances. Numerous updates to the SAP Business One software were provided to in the year leading up to March 2007,[70] resulting in significant measurable improvement in the software performance. Hodell had evidently seen enough improvement by early 2007 that it decided to begin final pre-go-live testing, *including fully loaded "stress testing"* (*i.e.*, testing a system at or beyond the anticipated peak load conditions it will have to handle once it goes live), using actual data and a full complement of actual users simulating operations just as they would occur after go live.

Mr. T. Phillips, and IT Project Manager at Hodell during the period when the testing prior to Hodell's going live and throughout the period when Hodell was using the SAP Business One software,[71] was in a unique position among Hodell employees to observe the testing, the go live process and the use of the system

[67] See, *e.g.*, HODL009651–9653 and 10444.
[68] See HODL00110 and O. Reidl deposition transcript, page 177.
[69] See, *e.g.*, HODL00184–186.
[70] See, *e.g.*, HODL00494; SAP00004029–SAP00004033; LSI01070190–192; and ACC000364–365.
[71] See Phillips deposition transcript, page 6.

after going live because he was the only Hodell employee with significant formal information technology training.[72] Mr. Phillips's account of what he personally witnessed[73] during the period leading up to and following the company's going live on the SAP Business One software explains how Hodell management failed to exercise normal and customary care in carrying out its implementation responsibilities. In particular, it illustrates the disregard Hodell had, at that time, for the very situation that Mr. Gümbel focuses on as the chief deficiency to the SAP Business One software. According to Mr. Phillips:

- The testing showed that the responsiveness of the Business One software (in combination with the InFlight add-on) was "very slow" and never achieved acceptable levels before going live.[74]
- As a result of what he saw during the pre-go-live testing, he believed that Hodell "should wait and try to work out the issues [before going live]" and he expected that if Hodell were to go live before the performance issues were corrected, the system's performance could not be expected to be any better than what was shown by the tests.[75]
- He "voiced [his] opinion [to] Kevin [Reidl], [and] the project manager at [LSi]."[76]
- Despite his recommendation to delay going live, Hodell management elected to go live without waiting until the SAP Business One / Inflight system was performing adequately.[77]
- He was not surprised that the performance of the system after going live was approximately the same as what the testing showed.[78]

There is no question that doing this testing prior to going live was Hodell's responsibility, as neither LSi nor SAP had the ability to do it, but Mr. Gümbel does not give any consideration at all to how Hodell's own failure to exercise

[72] See Phillips deposition transcript, page 29.
[73] See Phillips deposition transcript, page 21.
[74] See Phillips deposition transcript, pages 21–26.
[75] See Phillips deposition transcript, pages 27 and 30.
[76] See Phillips deposition transcript, page 26–27 and 30.
[77] See Phillips deposition transcript, page 27–28.
[78] See Phillips deposition transcript, pages 28–29.

normal care contributed to the very issues Mr. Gumbel addresses in the Customer Expectations section of his opinion report.[79]

In addition to Mr. Phillips's account of the pre-go-live testing and its outcome, LSi's lead implementation consultant for the Hodell project, Ms. M. Weissman, LSi's lead implementation consultant who was present during the go-live period,[80] spoke with several Hodell employees who told her that Hodell never really complied with the testing recommendations that she, Mr. Woodrum and others at LSi recommended.[81] Although Mr. Phillips did not necessarily concur that all of what Ms. Weissman heard about the testing was true through the entire company, she testified that "everybody was supposed to use the system all at the same time and work on it for maybe an hour all at once, so . . . However, as it was conveyed to me, it never took an hour . . . most of the people would go in. They'd open one document, make one entry, close it, and that would be it. . . . I was aware that they hadn't done the level that we requested. . . . I don't think I was aware of how much less they had done . . ."[82] Whether Ms. Weissman was correct, whether Mr. Phillips recollection that somewhat more rigorous testing had been done was correct, or whether it varied from one part of Hodell to another, it is still clear that the results of the testing did not justify Hodell's decision to go live as soon as it did.

Hodell's decision to go live with Business One, without successfully completing the normal and customary testing needed to resolve its known concern about the potential for problems with the software performance (and against the recommendation of its IT manager), is not consistent with the normal customs and practices of the industry. Thus, after Mr. K. Reidl had stated that it (a) knew the risk of going live prematurely, (b) intended to wait until SAP Business One was "fully functional" before going live and (c) needed to fully test Business One before going live,[83] it should have come as no surprise to Hodell management that, having neglected to do the testing it alone was responsible for doing, the SAP Business One software might later have failed to meet its performance expectations.

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[79] See Gumbel report, page 10.
[80] See Weissman deposition transcript, pages 24 and 74.
[81] See Weissman deposition transcript, page 84.
[82] See Weissman deposition transcript, pages 38–40.
[83] See HODL006028–30.

Opinion #7: Hodell's use of outdated, inadequate and underpowered equipment, cabling and network components to run the SAP Business One software contributed to the alleged inadequate performance of the SAP Business One software was inconsistent with the normal customs and practices of the industry and was a major causal factor that slowed the very performance problems complained about by Hodell.

Unknown to SAP (and apparently also to LSi until well after "go live"), the systems and supporting network that Hodell had in place in early 2007, and on which it went live with SAP Business One in March 2007, was so old and underpowered, in comparison with contemporary systems, that it became a major contributing cause of the very performance problems about which Hodell was so dissatisfied. The difference between the equipment in place at Hodell and more contemporaneous equipment was far from trivial and, according to Mr. J. Guagenti, LSi's Technical Service Director and lead developer on the InFlight add-on project,[84] caused problems that had a major effect in the speed with which the SAP Business One software was able to respond to user input. In particular:

- The cable installed at Hodell was old pair telephone-type cable (described as "silver satin" cable)[85] that was not the shielded twisted-pair cable (known as "CAT 5") that is based on a standard published in the early 1990s and had been the base-level cable recommended for computer networks for over a decade. The problem with using unshielded flat cable is that it is vulnerable to electromagnetic interference that can cause data loss and data re-transmission, either of which would negatively affect system performance.
- Hodell's network was configured with a single server with a single drive, instead of spitting the configuration up to share the load among multiple servers.[86] The use of RAID ("Redundant Array of Independent Disks") drives for faster data retrieval and redundancy and the use multiple server load sharing had been common for over a decade.

[84] See Guagenti deposition transcript, pages 11 and 21.
[85] See Guagenti deposition transcript, pages 24–25.
[86] See Guagenti deposition transcript, pages 25–26.

- Unsurprisingly, given the use of the telephone cable which cannot even operate reliably at base Ethernet speeds, *i.e.*, 10 megabits per second (10 Mbps), some of Hodell's network cabling infrastructure operated at the older 10 Mbps speed[87] instead of the 100 Mbps "Fast Ethernet" speed with 10 times the capacity, that had been introduced in the mid-1990s, or "Gigabit Ethernet" that had come into use in the early 2000s. This also has a negative impact on network performance.

- Some users were running on older personal computers with less memory than SAP had recommended,[88] and trying to run several programs on them concurrently,[89] which not only affected the performance of their own computers but, because of the architecture of the SAP Business One product,[90] could result in performance degradation for all the SAP Business One users.

- Hodell did not, until quite some time after going live with SAP Business One, begin utilizing Citrix servers to support remote warehouses.[91] The use of Citrix technology (which had been common since the 1990s), if it had been done from the outset, would have counteracted some of the problems caused by the users having outdated PCs, because the Business One processing that was done on the users' PCs would be done on the Citrix servers instead. Even after Hodell did install Citrix servers, it apparently did not configure all of them properly, since the performance of the Business One software varied from one user to another for the same functions, depending on which Citrix server their PC was communicating with.[92]

- Hodell was using Virtual Private Networks (VPNs) for some of its remote connectivity (which enhances data security), but the VPNs it was using were very slow.[93] According to Mr. Guagenti, Business

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[87] See Guagenti deposition transcript, page 46.
[88] Ms. Weissman testified that some of the PCs had only 760 MB of RAM memory (see Guagenti deposition transcript, pages106–108 at the time of "go live" even after E. Neveux had recommended at least 1 GB of RAM previously (see LSI01057550).
[89] See Guagenti deposition transcript, page 35–36.
[90] The two-tier architecture the Mr. Gumbel noted as being of primary importance to system performance.
[91] See Guagenti deposition transcript, pages 39–40.
[92] See, *e.g.*, SAP00003166 and 5988–5991.
[93] See Guagenti deposition transcript, pages 51–52.

> One could have been configured with distributed servers or faster VPN communications links instead of the slow VPNs, either of which would still have achieved any data security objectives.[93]

Putting all of these factors together, Hodell's own infrastructure (which was totally outside of both SAP's control and SAP's ability to forsee) was certainly a significant cause of the very problems that were causing Business One to fail to meet Hodell's performance expectations in the way Mr. Gürnbel describes in the Customer Expectations section of his report.

Opinion #8: SAP's support of LSi and Hodell was consistent with the normal standard of care typically delivered by ERP software companies and was not a significant cause of the alleged software deficiencies cited by Hodell.

Once SAP became aware that Hodell and LSi were having performance issues with the Business One product, it responded in a manner that, for the most part, far exceeded the standard of care that is normal and customary for the business software industry.[94] Not only did it provide an exemplary level of care, it continued to do so throughout the entire time that LSi was requesting support.[95] despite the fact that – during that very same period – Hodell was refusing payment of the Business One software support fees.[96] In addition, there came a time when Hodell's was no longer providing the top-down commitment to the success of the implementation, threatening to instigate legal action against SAP and LSi and initiating a search for alternative software, but SAP continued to provide support to LSi's implantation efforts until LSi discontinued requesting it.[97]

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[93] See, *e.g.*, Guagenti deposition transcript, pages 188–189.
[94] See, *e.g.*, HODL015021; LSI021 15834–835 and SAP00002780–2782.
[95] See, *e.g.*, SAP00003301–3302.
[96] See SAP00004903–4908.
[97] See, *e.g.*, HODL018575–577; SAP00004903–4908 and Woodrum deposition transcript, pages 71–72.

Examples of the support services provided by SAP include:

- Ongoing response to LSi and Hodell concerns and requests, including investigation of all performance and other issues related to Business One raised by either party;[99]
- Continual patches to the Business One software, including both regular fixes that were being delivered for all Business One users and individual fixes developed specifically for Hodell. These patches resulted in continual improvements to the performance of the SAP Business One software, including targeted improvements intended to address issues created by InFlight;[100]
- Analysis of the InFlight add-on, including its interaction with the SAP Business One software, to determine what was causing and what could be done to alleviate Hodell's performance concerns;[101]
- On-site visits to Hodell to review and analyze the cause of the performance issues with the software and add-ons;[102]
- Involvement of SAP's Israeli subsidiary (*i.e.*, the organization that originally created the software marketed by SAP America as Business One) to supplement the support provided by SAP America's US-based support staff.[103]

Not only did SAP continue to provide this support, but it did so with full candor, refusing to make unrealistic promises to Hodell and limiting its commitments to what it thought it could do, ultimately achieving significant performance improvement.[104]

[99] See SAP00012001–12008; HODL018358–362.
[100] See, e.g., Gungenti deposition transcript, pages 194 and 206–207; SAP00002780–2782 and 4016–4019.
[101] See, e.g. SAP00005123–12589.
[102] See LSI-000469–472; SAP00012885–3168).
[103] See LSI02116834–835; HODL028651–23652; SAP00004753–4760.
[104] See, e.g. SAP00011741—SAP00011749.

PUBLICATIONS

I have authored a book, "Buying a Computer for Your Growing Business, An Insider's Guide," which was published by Dow Jones-Irwin in 1984. I have also published Seven Critical Areas: Increasing the Effectiveness of Expert Testimony, For The Defense, July 2011.

PRIOR TESTIMONY

Within the past four years, I have testified in the following cases:

- Oracle USA, Inc., et. al. v. Rimini Street, et. al.; United States District Court; District of Nevada (deposition testimony).
- PC Onsite v. Massage En V; AAA, Phoenix, Arizona Office (deposition and arbitration testimony).
- Prodomax Automation, Inc. v. Encompix, Inc.; AAA, Cincinnati, Ohio office (deposition testimony).
- ePlus v. Lawson; United States District Court; Eastern District of Virginia (deposition and trial testimony).
- A series of individual arbitrations between Dealer Computer Systems [a/k/a Ford Dealer Computer Systems] and various automobile dealerships[105] before the AAA, Houston, Texas office; (deposition and arbitration testimony).
- Axway, Inc. v. DHL Express (USA); United States District Court, District of Arizona (deposition testimony).
- AOL v. Accenture; State of Virginia, Fairfax County Circuit Court (deposition and trial testimony).

[105] Republic Ford, Butler Ford, Allan Vigil Ford, Hammonasset Ford, Saybrook Ford, Laird-Noller Ford, Pavilion Lincoln-Mercury, Northwood Lincoln-Mercury, Carey-Paul Ford, Kemp Ford, Classic Ford Lincoln Mercury, Randall Ford et. al. (Class Action suit), Griffin Ford, Michael Motors Company, Oasis Ford, Golden Eagle Motors and John Chandler Ford.

- Summit Electric Supply Company v. International Business Machines Corporation; United States District Court, District of New Mexico (deposition testimony).

COMPENSATION

The compensation paid for services rendered in this matter for preparation, research and consulting is $475 per hour plus expenses.

Certified
Management Consultant

Certification

When you see the initials "CMC" following a consultant's name, it means that he or she is a Certified Management Consultant and has met the strict certification requirements of the Institute of Management Consultants. The Institute was founded in 1968 by the principal associations in the consulting field to establish publicly recognized standards of competence and professional conduct for the individual management consultant. Applicants for certification undergo a thorough investigation of their consulting experience: A panel of senior consultants interviews them to verify their technical competence, and they must pass a written examination demonstrating their familiarity with the Institute's Code of Ethics.

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- Accept only those client engagements they are qualified to perform.
- Agree with the client in advance on the basis for professional charges.
- Develop realistic and practical solutions to client problems.

The Institute enforces the Code by receiving and investigating complaints of violations and by taking disciplinary action, including revocation of certification against any member who is found guilty of Code violation.

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Every step leading to the CMC designation has been designed to verify the candidate's professional competence. A Certified Management Consultant has:

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- Multiple references, most of them officers or executives of client organizations. These references have been investigated to assure that the consulting relationships were satisfactory.
- Provided written summaries of five client assignments (disguised to protect client identity).
- Passed a qualifying interview by senior CMCs, demonstrating professional competence, currency in areas of specialization, application of experience, and understanding of the management consulting process.

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In selecting management consultants, managers are well advised to seek individuals who meet the profession's standards of competence and ethics. The CMC designation is a valuable aid in this quest. Certification by the Institute of Management Consultants is the mark of excellence among management consulting professionals.

VALUE of HIRING and WORKING with Certified Computing Professionals

Certified Computing Professional

The world relies heavily on technology to perform vital personal, public and business functions. It is imperative that the individuals involved in the design and delivery of the systems behind that technology

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- Master the body of knowledge of the profession
- Ensure that access to computerized information remains confidential
- Provide open and complete communications to clients, employers and the public
- Act to ensure that information technology serves and benefits society at large

The CCP designation ensures that its holder is committed to these principles. It also helps consumers to identify superior suppliers of Information and Communications Technologies' (ICT) products and services that can help enhance the effectiveness of their organizations.

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- Identify superior service providers: Reduce time spent searching for qualified service
- Obtain recourse for unprofessional activity: CCP holders are accountable to the Certification Council and panels of peer evaluations

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- Maintain industry knowledge: CCP holders have increased access to educational and professional development opportunities and often at lower costs
- Streamline recruiting: Narrow candidate searches and identify candidates quickly
- Enhance confidentiality: ICCP Code of Ethics guarantees confidentiality at all times
- Develop staff: Ensure ongoing professional development and tracking for existing staff through ICCP's transcript system

3. BENEFITS OF THE CCP TO HUMAN RESOURCE PROFESSIONALS:

- Narrow candidate searches: CCP as a base requirement for applications reduces total number of applicant candidates to those fully qualified
- Deeper evaluation of selected/qualified applicants: The ICCP H R assessment system allows you to assess, externally & impartially, the strength of knowledge and skills of individual applicants for specific technology areas
- Simplify application screening: CCP helps identify qualified applicants quickly
- Control costs: large base of CCP holders ensures that your needs can be met
- Enhance company marketability: CCP holders enhance an organization's image
- Develop staff: Ensure ongoing commitment by staff towards maintaining the currency of their knowledge and skills

4. FINDING A CCP HOLDER IN YOUR COMMUNITY

- The public may request a search for a registered CCP holder(s) in your state or province. Contact the ICCP office through email at office@iccp.org to request this service.
- Please note there is a fee for service for this activity.

ICCP, 2350 East Devon Ave, Suite 115, Des Plaines, Illinois 60018- 4610, USA
phone:847-299-4227 or 800-843-8227 fax: 847-299-4280 email: office@iccp.org
web site: www.iccp.org

BUSINESS AUTOMATION

PROFESSIONAL BIOGRAPHY OF BROOKS L. HILLIARD CMC CCP

Brooks Hilliard is a Certified Management Consultant (CMC) and a Certified Computing Professional (CCP), and is president of Business Automation Associates, Inc., an independent consulting firm based in Scottsdale, Arizona and specializing in computer system selection and problem resolution. In his consulting capacity, Mr. Hilliard has been engaged by over 200 firms in a wide variety of industries and professions. Although it has no affiliation with any supplier of computer products or services, Business Automation has recommended systems incorporating products from nearly every major hardware manufacturer and software developer. In order to maintain its objectivity and avoid any possibility of conflict of interest, Business Automation does not do software development, implement computer software or systems, or sell any computer products or services.

Approximately thirty percent of Business Automation's engagements have been expert witness/consultant projects. Mr. Hilliard has testified more than 30 times and has been engaged for several dozen expert assignments in more than 25 states, including matters relating to computer system non-performance (both software and hardware), recovery of missing and deleted data, the use of fraudulent computer evidence, intellectual property and computer security. His activities have included assistance with case evaluation, development of pre-trial and deposition strategies, evaluation of damages, development of expert opinions and deposition/courtroom testimony. He has been successfully Daubert tested and qualified as in expert in both state and federal jurisdictions. Prior to founding Business Automation in the 1980s, Mr. Hilliard worked for several computer companies where his responsibilities included positions in software development, sales, marketing, field service, contract negotiations and general management.

Brooks Hilliard is the only actively practicing expert witness in the world who is both a Certified Management Consultant (CMC) and a Certified Computing Professional (CCP). The CMC designation is awarded by the Institute of Management Consultants, USA, the US chapter of the only world-wide certifying body for management consultants. The CCP designation is awarded by the Institute for the Certification of Computer Professionals, an international certifying authority sponsored by more than twenty domestic and international computer professional associations. To achieve these certifications, Mr. Hilliard has undergone peer reviews, client audits, competency tests and oral interviews; he has complied with continuing education requirements and has pledged to uphold the Codes of Ethics for both organizations. He also serves as a national board member for the Institute of Management Consultants, USA.

In addition to his consulting activities, Mr. Hilliard has served as an officer or

board member for the Arizona Chapter of the Institute of Management Consultants, the Arizona Harvard Business School Association, MIT Alumni Club of Phoenix, the Arizona Chapter of the National Conference of Community and Justice (NCCJ), Devereux Foundation Arizona Advisory Board and the Phoenix 100 Rotary. He has also been an active participant in the Arizona State Bar Technology Task Force, the Arizona Technology Council, the Independent Computer Consultants Association and the College of Certified Management Consultants. He has done commentary for Public Radio International's nationally-syndicated MARKETPLACE news program, led seminars for the American Management Association and spoken at numerous computer, management, professional, corporate and trade association meetings.

Mr. Hilliard has also authored a book, "Buying a Computer for Your Growing Business, An Insider's Guide", which was published by Dow Jones.

Mr. Hilliard's educational background includes an M.B.A. from Harvard Business School with emphasis on small business management and marketing. He also holds a Baccalaureate degree in mechanical engineering with Deans' List academic honors from the Massachusetts Institute of Technology. In addition, Mr. Hilliard has served as a Faculty Associate with the Arizona State University School of Business.

Born and raised in Los Angeles, Mr. Hilliard has lived in Arizona, California, Massachusetts and Washington, D.C. (where he served as an officer in the U.S. Coast Guard).

BUSINESS AUTOMATION

Documents reviewed

All exhibits to all deposition transcripts
Amended Complaint with Exhibits
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